RAW SEQUENCE LISTING

DATE: 06/21/2001

PATENT APPLICATION: US/09/780,675

TIME: 16:23:25

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\06212001\I780675.raw

ENTERED

			L 14 :	B 6 mm
	4	<110>	APPLICANT: Nicolaides, Nicholas	
	5		Sass, Philip	
	6		Grasso, Luigi	
	7		Vogelstein, Bert	
	8		Kinzler, Kenneth	
	10	<120>	TITLE OF INVENTION: METHODS FOR GENERATING HYPERMUTABLE	
	11	•	MICROBES	
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			CURRENT FILING DATE: 2001-02-12	
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			PRIOR FILING DATE: 2000-02-11	
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			FEATURE:	
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			ORGANISM: Artificial Sequence	
			FEATURE:	
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			ttcgcc gatgc SEQ ID NO: 3	75
			LENGTH: 27	
			TYPE: DNA	
			ORGANISM: Artificial Sequence	
			FEATURE:	
			OTHER INFORMATION: PCR PRIMER	
			SEQUENCE: 3	
	57		atatgt gtccttggcg gcctaga	27
•		_	SEQ ID NO: 4	
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	67	<400>	SEQUENCE: 4	
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		120
78 70	caaagacttt tgagaccgct tgctgtttca ttatagttga ggagttctcg aagacgagaa attagcagtt ttcggtgttt agtaatcgcg ctagcatgct aggacaattt aactgcaaaa	180
79		240
80	ttttgatacg atagtgatag taaatggaag gtaaaaataa catagaccta tcaataagca	300
81	atgtctctca gaataaaagc acttgatgca tcagtggtta acaaaattgc tgcaggtgag	
82	atcataatat cccccgtaaa tgctctcaaa gaaatgatgg agaattccat cgatgcgaat	360
83	gctacaatga ttgatattct agtcaaggaa ggaggaatta aggtacttca aataacagat	420
84	aacggatctg gaattaataa agcagacctg ccaatcttat gtgagcgatt cacgacgtcc	480
85	aaattacaaa aattcgaaga tttgagtcag attcaaacgt atggattccg aggagaagct	540
86	ttagccagta tetcacatgt ggcaagagte acagtaacga caaaagttaa agaagacaga	600
87	tgtgcatgga gagtttcata tgcagaaggt aagatgttgg aaagccccaa acctgttgct	660
88	ggaaaagacg gtaccacgat cctagttgaa gacctttttt tcaatattcc ttctagatta	720
89	agggccttga ggtcccataa tgatgaatac tctaaaatat tagatgttgt cgggcgatac	780
90	gccattcatt ccaaggacat tggcttttct tgtaaaaagt tcggagactc taattattct	840
91	ttatcagtta aaccttcata tacagtccag gataggatta ggactgtgtt caataaatct	900
92	gtggcttcga atttaattac ttttcatatc agcaaagtag aagatttaaa cctggaaagc	960
93	gttgatggaa aggtgtgtaa tttgaatttc atatccaaaa agtccatttc attaattttt	1020
94	ttcattaata atagactagt gacatgtgat cttctaagaa gagctttgaa cagcgtttac	1080
95	tocaattato tgocaaaggg ottoagacot tttatttatt tgggaattgt tatagatoog	1140
96	geggetgttg atgttaacgt teaceegaca aagagagagg ttegttteet gageeaagat	1200
97	gagatcatag agaaaatcgc caatcaattg cacgccgaat tatctgccat tgatacttca	1260
98	cgtactttca aggcttcttc aatttcaaca aacaagccag agtcattgat accatttaat	1320
99	gacaccatag aaagtgatag gaataggaag agtctccgac aagcccaagt ggtagagaat	1380
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102	tttgaaggat cgtctacaaa gcgacaactg agtgaaccca aggtaacaaa tgtaagccac	1560
103	toccaagagg cagaaaagct gacactaaat gaaagcgaac aaccgcgtga tgccaataca	1620
104	atcaatgata atgacttgaa ggatcaacct aagaagaaac aaaagttggg ggattataaa	1680
105	gttccaagca ttgccgatga cgaaaagaat gcactcccga tttcaaaaga cgggtatatt	1740
106	agagtaccta aggagcgagt taatgttaat cttacgagta tcaagaaatt gcgtgaaaaa	1800
107	qtaqatqatt cqatacatcq agaactaaca qacatttttq caaatttgaa ttacgttggg	1860
108	gttgtagatg aggaaagaag attagccgct attcagcatg acttaaagct ttttttaata	1920
100	gattacqqat ctqtqtqcta tgaqctattc tatcaqattq gtttqacaqa cttcqcaaac	1980
110	tttggtaaga taaacctaca gagtacaaat gtgtcagatg atatagtttt gtataatctc	2040
	ctatcagaat ttgacgagtt aaatgacgat gcttccaaag aaaaaataat tagtaaaata	2100
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112	tgggacatga gcagtatgct aaatgagtac tattccatag aattggtgaa tgatggtcta	
113	gataatgact taaagtetgt gaagetaaaa tetetaceae taettttaaa aggetacatt	2220
114	ccatctctgg tcaagttacc atttttata tatcgcctgg gtaaagaagt tgattgggag	2280
115	gatgaacaag agtgtctaga tggtatttta agagagattg cattactcta tatacctgat	2340
116	atggttccga aagtcgatac actcgatgca tcgttgtcag aagacgaaaa agcccagttt	2400
117	ataaatagaa aggaacacat atcctcatta ctagaacacg ttctcttccc ttgtatcaaa	2460
118	cgaaggttcc tggcccctag acacattctc aaggatgtcg tggaaatagc caaccttcca	2520
119	gatctataca aagtttttga gaggtgttaa ctttaaaacg ttttggctgt aataccaaag	2580

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120	tttttgttta	tttcctgagt	gtgattgtgt	ttcatttgaa	agtgtatgcc	ctttccttta	2640
121					tgcagttagg		2700
122	agaaatgtat	attcggattg	aaactcttct	aatagttctg	aagtcacttg	gttccgtatt	2760
123	gttttcgtcc	tcttcctcaa	gcaacgattc	ttgtctaagc	ttattcaacg	gtaccaaaga	2820
124	cccgagtcct	tttatgagag	aaaacatttc	atcattttc	aactcaatta	tcttaatatc	2880
125	attttgtagt	attttgaaaa	caggatggta	aaacgaatca	cctgaatcta	gaagctgtac	2940
126	cttgtcccat	aaaagtttta	atttactgag	cctttcggtc	aagtaaacta	gtttatctag	3000
127	ttttgaaccg	aatattgtgg	gcagatttgc	agtaagttca	gttagatcta	ctaaaagttg	3060
128	tttgacagca	gccgattcca	caaaaatttg	gtaaaaggag	atgaaagaga	cctcgcgcgt	3120
129	aatggtttgc	atcaccatcg	gatgtctgtt	gaaaaactca	ctttttgcat	ggaagttatt	3180
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	<212> TYPE:						
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139	taacctgtcg	tcaggtaacg	atggtgtata	tgcaacagaa	atgggtgttc	ctggagacgc	120
140	gtcttttccc	gagagcggca	ccgcaactct	cccgcggtga	ctgtgactgg	aggagtcctg	180
141	catccatgga	gcaaaccgaa	ggcgtgagta	cagaatgtgc	taaggccatc	aagcctattg	240
142	atgggaagtc	agtccatcaa	atttgttctg	ggcaggtgat	actcagttta	agcaccgctg	300
143	tgaaggagtt	gatagaaaat	agtgtagatg	ctggtgctac	tactattgat	ctaaggctta	360
144	aagactatgg	ggtggacctc	attgaagttt	cagacaatgg	atgtggggta	gaagaagaaa	420
145	actttgaagg	tctagctctg	aaacatcaca	catctaagat	tcaagagttt	gccgacctca	480
146	cgcaggttga	aactttcggc	tttcgggggg	aagètetgag	ctctctgtgt	gcactaagtg	540
147	atgtcactat	atctacctgc	cacgggtctg	caagcgttgg	gactcgactg	gtgtttgacc	600
148	ataatgggaa	aatcacccag	aaaactccct	acccccgacc	taaaggaacc	acagtcagtg	660
149	tgcagcactt	attttataca	ctacccgtgc	gttacaaaga	gtttcagagg	aacattaaaa	720
150	aggagtattc	caaaatggtg	caggtcttac	aggcgtactg	tatcatctca	gcaggcgtcc	. 780
151					cgctgtggtg		840
152	gcacgtctgg	catgaaggaa	aatatcgggt	ctgtgtttgg	ccagaagcag	ttgcaaagcc	900
153	tcattccttt	tgttcagctg	ccccctagtg	acgctgtgtg	tgaagagtac	ggcctgagca	960
154	cttcaggacg	ccacaaaacc	ttttctacgt	ttcgggcttc	atttcacagt	gcacgcacgg	1020
155					aatcagaggc		1080
156					gtataaccgg	•	1140
157					ggatattaat	-	1200
158					ggccgtttta	_	1260
159					caaccagcag		1320
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161					gaaaagggta		1440
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165					aaaagactca		1680
166					agtggccagt		1740
167					ggaaaccata		1800
168					gccagaagac		1860
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170	aggaaagacc	ctcaaatgtc	aacatttctc	aaagattgcc	tggtcctcag	agcacctcag	1980

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171	cagctgaggt	cgatgtagcc	ataaaaatga	ataagagaat	cgtgctcctc	gagttctctc	2040
172	tgagttctct	agctaagcga	atgaagcagt	tacagcacct	aaaggcgcag	aacaaacatg	2100
173	aactgagtta	cagaaaattt	agggccaaga	tttgccctgg	agaaaaccaa	gcagcagaag	2160
174	atgaactcag	aaaagagatt	agtaaatcga	tgtttgcaga	gatggagatc	ttgggtcagt	2220
175	ttaacctggg	atttatagta	accaaactga	aagaggacct	cttcctggtg	gaccagcatg	2280
176				tgcagcagca			2340
177		_	_	ctgctgtcaa			2400
178	atctggaaat	attcagaaag	aatggctttg	actttgtcat	tgatgaggat	gctccagtca	2460
179				ctagtaaaaa			2520
180				acagccctgg			2580
181				gtcggaagtc			2640
182				cccacatggg			2700
183	_			acgttgccaa		_	2760
184	-			ttacagattg			2820
185	_	-		aattagcatg			2880
186	-			tggagtgttc			2940
187				actttgagac			3000
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	<211> LENGTI						_
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202			-	tctacctgcc			420
203				attatccaga		-	480
204				ttttccacac			540
205				aaaatggtcc			600
206				accaatcagc			660
207				ataaaggaaa			720
208				gttcagctgc			780
209				ctgcataatc			840
210 211				agttcaacag			900
				tgcagactcg			960 1020
212				cttaacattt			1020
213	-	-		attttgctac			
214				tttgatagtg			1140
215				aacttaataa			1200
216 217				tccccttcat			1260 1320
217				gccttttctc			1320
219				agaaggagcc			1440
219				tctgacaaag			1500
221				gaccctacgg			1560
44 1	gactogggge	acygeageae	LLCCYLYYAL	tctgaggggt	ccaycateee	agacacygyc	1000

DATE: 06/21/2001 TIME: 16:23:26 RAW SEQUENCE LISTING PATENT APPLICATION: US/09/780,675

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224			_	cgagttttgc	-	_	1740
225				gaaattcttt			1800
226				tctcaggttg			1860
227				agttctttag			1920
228	catcatgaag	cacagcaaag	tgaaggggaa	cagaattaca	ggaagtttag	ggcaaagatt	1980
229	tgtcctggag	aaaatcaagc	agccgaagat	gaactaagaa	aagagataag	taaaacgatg	2040
230	tttgcagaaa	tggaaatcat	tggtcagttt	aacctgggat	ttataataac	caaactgaat	2100
231	gaggatatct	tcatagtgga	ccagcatgcc	acggacgaga	agtataactt	cgagatgctg	2160
232	cagcagcaca	ccgtgctcca	ggggcagagg	ctcatagcac	ctcagactct	caacttaact	2220
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237	cggaagtcgg	tgatgattgg	gactgctctt	aacacaagcg	agatgaagaa	actgatcacc	2520
238	cacatggggg	agatggacca	cccctggaac	tgtccccatg	gaaggccaac	catgagacac	2580
239	atcqccaacc	tgggtgtcat	ttctcagaac	tgaccgtagt	cactgtatgg	aataattggt	2640
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254				ttgatgcacc			300
255				ttgaaaattt			360
256		_		ctgaggtttt	-		420
257				atggcagtgg			480
258	-	-		ctgctttaag		-	540
259			-	aatgtaaaga	_	_	600
260		-	_	ctgacttaag	-		660
261				cagatcacaa			720
262				cctttcagta			780
263				atgcagacca	_	_	840
264				gtcgaccagt			900
265				gcctaaagga			960
266				ctgatgttga			1020
267				ctgttttaat			1080
268				attettatga			1140
269	-		-	cagaaacaga			1200
270				atacttcagt			1260
271				atgattgttt			1320
271				aaatttctaa			1320
414	4646666644	LLULYYLUAL	- y - u y - u y - u y	uuuuuuluua	uuuuuuu	uuvuvuuuya	T 2 0 0
	3-3:33				-	•	

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/780,675

DATE: 06/21/2001 TIME: 16:23:27

Input Set : A:\Seqlist.txt

Output Set: N:\CRF3\06212001\1780675.raw

L:15 M:270 C: Current Application Number differs, Replaced Current Application Number L:1558 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (26) SEQUENCE: